



LEGISLATIVE REPORT | DECEMBER 2018

Electronic Control Weapons in Massachusetts: 2017

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LEGISLATIVE LANGUAGE

For the duration of the 2017 calendar year, Massachusetts General Law Chapter 140, Section 131J permitted the use of electronic control weapons (ECW) by law enforcement personnel in the course of their official duties, provided that they have completed a training course approved by the Executive Office of Public Safety and Security (EOPSS). This statute has since been amended. However, Chapter 170 of the Acts of 2004 requires that ECW devices contain a mechanism in order to track the number of times each weapon is deployed. This legislation remains intact. In October 2004, in response to Chapter 170 of the Acts of 2004, EOPSS promulgated 501 CMR 8.00 *et seq.*, regulations governing the sale of electronic control weapons in the Commonwealth and the training of law enforcement personnel on the appropriate use of such weapons. In September 2005, EOPSS began authorizing ECW training programs to facilitate the purchase and use of ECWs by law enforcement agencies in the Commonwealth.

The law further requires that EOPSS develop a uniform protocol directing state and municipal police officers to collect data pursuant to this act. Such data shall include the number of times the device or weapon has been fired and the identifying characteristics, such as race and sex, of the individuals who have been fired upon.

Under the previous iteration of M.G.L. c. 140, s. 131J, law enforcement agencies were permitted to request approval from EOPSS for their proposed ECW training programs on a rolling basis over the course of a calendar year. Once approved, the law enforcement agency was required to report on its ECW usage, regardless of whether equipment or training is procured. Since the law was amended, law enforcement agencies no longer need approval from EOPSS to implement the use of ECWs, but the requirement to report the usage of such weapons remains ongoing.

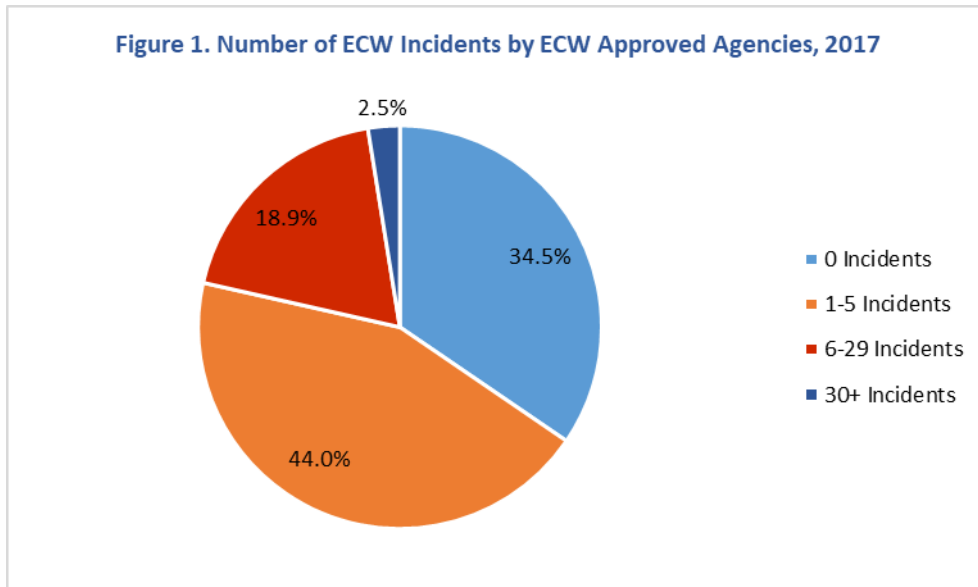
HIGHLIGHTS

As required by the legislature, this report examines data prepared by Massachusetts law enforcement agencies with approved electronic control weapons (ECW) training programs for 2017. Approved agencies are required to complete and submit semi-annual ECW reports on information related to: 1) the number of sworn officers serving the agency; 2) the number of ECW trained officers serving the agency; 3) the number of ECWs owned by the agency; 4) the number of total incidents that occurred during the reporting period; 5) general details about each incident (e.g., warnings, deployments, submissions, etc.); and 6) demographic information about the subject. New for this year's report are three maps showing historical trends for cities/towns approved for ECW use, and the number of incidents and deployments by city/town in 2017. The terms and definitions referenced in this report are provided on page 24.

- ⇒ By the end of 2017 there were 275 agencies approved for ECW use of which 25 were approved during the year.
- ⇒ There were a total of 1,339 ECW incidents during the year; 34.5% of agencies reported no incidents (95 agencies).
- ⇒ The ratio of agency owned devices to trained officers increased each year from .55 in 2012 to .77 in 2017.
- ⇒ Of 1,477 contacts, 15 were non-human, 92.1% were male, 59.7% were White, and the average age was 33.2 years.
- ⇒ Of the 1,462 ECW contacts with humans, 89.6% (1,310) began with the officer issuing at least one ECW warning, with 41.5% of subjects submitting and no further need for deployment.
- ⇒ Officers deployed ECW weapons in about half (50.7%) of all contacts; subjects submitted to ECW deployments 72.6% of the time.

ECW INCIDENTS AND POLICE DEPARTMENTS

During 2017, twenty five police departments were approved for *electronic control weapons (ECW)*¹ use, raising the cumulative total to 275 (*ECW*) *approved agencies*² in Massachusetts.



There were a total of 1,339 *ECW incidents*³ reported in 2017; the number reported by each department ranged widely from zero (95 agencies) to 81 incidents (both Massachusetts State Police and Springfield Police Departments) (Figure 1). More than three-quarters (78.5%) of agencies had five or fewer incidents, of which 34.5% had no incidents and 33.1% had one to three incidents; 21.5% of agencies reported more than five incidents, including seven agencies with 30 or more incidents. These seven agencies accounted for slightly less than a third (31.7%) of all ECW incidents in 2017 (Appendix Table 1, pgs. 12-16).

Appendix Figure 2, pg. 11 maps incidents by city/town with the darker blues representing municipalities with the most incidents. Dashes represent municipalities that do not have ECW approval, while the white and light gray colors represent municipalities with the lowest number of incidents (0 and 1-2, respectively).

¹a device utilized to immobilize a subject without causing serious injury, typically by administering an electric shock. An ECW is commonly referred to as stun gun or TASER®.

²a law enforcement agency in Massachusetts with an electronic control weapons training program approved by the Secretary of Public Safety and Security.

³an event in which an officer (or group of officers) issue a warning and/or deploy an ECW towards a single subject.

CURRENT TRENDS

Figure 2 illustrates continuing growth in the number of ECW incidents reported each year, but fluctuation in the amount of growth over the period. The beginning of the period experienced the largest growth in the number of incidents from 2012 to 2013 (12.8%) with growth fluctuating in the following years between 3.3% and 12.6%. Overall, the number of incidents increased from 2012 to 2017 by 59.2% , and 7.9% from 2016 to 2017 (Figure 2 and Table 1).

The Massachusetts map (Appendix Figure 1, pg. 10) displays ECW growth for municipal police departments from 2005 through 2017. The map shows the greatest concentration of cities and towns that did not have ECWs in 2017 are in the western and eastern parts of the state.

Each year from 2012 to 2016, growth in the number of ECW agencies, officers, and devices frequently outpaced growth in the number of ECW incidents (Table 1). For example, from 2014 to 2015, ECW incidents grew by 12.4% while the number of approved agencies grew by 17.9%, sworn officers increased 19.5%, ECW trained officers increased 21.4%, and ECW agency owned devices increased 25.8%. The most recent period 2016 to 2017 shows an opposite pattern: growth in the number of incidents (7.9%) was outpaced by growth in the number of ECW approved agencies (10.0%), ECW trained officers (18.0%), and agency owned devices (33.0%) . Growth in the number of sworn officers (5.0%) was less than growth in the number of incidents (7.9%). During the five-year period, the number of agency owned ECW devices more than tripled, greatly surpassing the growth seen in incidents, agencies, and officers.

The ratio of ECW incidents to ECW trained officers decreased over the last five years: from .21 in 2012 to .14 in 2017. Additionally, the ratio of agency owned devices to trained officers increased each year, from .55 in 2012 to .77 in 2017.

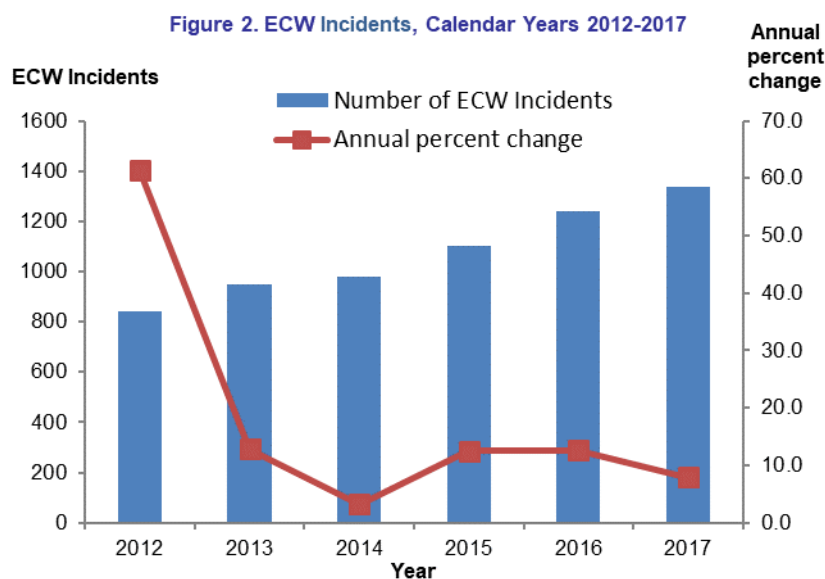


Table 1. Characteristics of ECW Approved Agencies, Calendar Years 2012-2017

	Number						Annual percent change				
	2012	2013	2014	2015	2016	2017	2012 -2013	2013 -2014	2014 -2015	2015 -2016	2016 -2017
ECW incidents	841	949	980	1,102	1,241	1,339	12.8%	3.3%	12.4%	12.6%	7.9%
ECW approved agencies	145	172	195	230	250	275	18.6%	13.4%	17.9%	8.7%	10.0%
Sworn officers ^a	7,564	8,648	9,318	11,139	14,385	15,106	14.3%	7.7%	19.5%	29.1%	5.0%
ECW trained officers	4,013	4,620	5,363	6,512	8,215	9,691	15.1%	16.1%	21.4%	26.2%	18.0%
ECW agency owned devices	2,193	2,586	3,358	4,223	5,626	7,481	17.9%	29.9%	25.8%	33.2%	33.0%

^a Sworn officers serving in ECW approved agencies.

ECW CONTACTS

From January 1, 2017 through December 31, 2017, ECW approved agencies reported 1,477 **ECW contacts**.⁴ Fifteen contacts were animals such as turkeys or dogs. The remaining 1,462 contacts were people.

The majority (92.1%) of the 1,462 contacts was male (Appendix Table 2, pg. 17). Less than two-thirds comprised white subjects (59.7%), followed by black subjects (19.3%), Hispanic subjects (18.1%), and subjects of other races (1.7%).⁵ More than half of subjects were between 20 and 34 years of age (54.4%); slightly more than one-third (35.9%) were between 35 and 59 years of age (Appendix Table 3, pg. 17). Individuals younger than 20 years of age (7.4%) and individuals 60 years of age or older (1.8%) represented the smallest proportion of ECW subjects. The average age for subjects was 33.2 years.

⁴Multiple ECW contacts can occur during a single ECW incident, (e.g., an incident in which two officers each deploy an ECW at a subject is considered two contacts and one incident). This section details ECW contacts between officers and subjects.

⁶Other comprises race categories of American Indian/Alaska Native, Asian, and a combination of two or more races.

ECW WARNINGS AND SUBMISSIONS

Of the 1,462 ECW contacts with human subjects, 89.6% (1,310) began with the officer issuing at least one **ECW warning** (**verbal warning**, **laser warning**, and/or **spark warning**)⁶ in attempt to gain the subject's submission. As shown in Table 2, officers issued just one warning in 47.9% of contacts; verbal warnings were the most common (593 of 627, 94.6%). The majority of contacts (52.1%) involved multiple warnings of which verbal and laser warnings comprised the bulk (613 of 683, 89.8%). For contacts who received only one warning, laser warnings had the highest rate of submission (41.9%); for contacts with multiple warnings, a combination of verbal and laser warnings had the highest rate of submission (51.7%).

A minimal number of contacts (152 or 10.4%) received no warning prior to ECW deployment. Agencies indicated that sudden actions by the subject (i.e., subjects becoming immediately combative during handcuffing) required immediate **ECW deployment** (**probe deployment**, **5-second cycle**, and/or **stun deployment**)⁷ and precluded an opportunity for the officer to issue a warning. Additionally, incidents involving two or more officers may result in one warning but multiple deployments from each officer.

Table 2. ECW Warning Types by Submissions, Calendar Year 2017

Characteristic	Warnings		Submissions		Percent that Submit
	Number	Percent	Number	Percent	
Total	1,310	100%	544	100%	41.5%
<u>One warning</u>	627	47.9%	212	39.0%	33.8%
Verbal	593	45.3%	198	36.4%	33.4%
Laser	31	2.4%	13	2.4%	41.9%
Spark	3	0.2%	1	0.2%	--
<u>Multiple warnings</u>	683	52.1%	332	61.0%	48.6%
Verbal/laser	613	46.8%	317	58.3%	51.7%
Verbal/spark	23	1.8%	4	0.7%	17.4%
Laser/spark	0	--	0	--	--
Verbal/laser/spark	47	3.6%	11	2.0%	23.4%

⁶**ECW Warning:**

Laser warning— a visual warning whereby an officer employs the laser function of the ECW device to indicate that an ECW will be deployed.

Spark warning— a visual warning whereby an officer employs a spark on a handheld stun device in order to demonstrate its effectiveness.

Verbal warning— a spoken warning whereby an officer indicates to a subject that an ECW may be used. These warnings can be direct, "Stop or you will be tased," or indirect such as when an officer verbally warns other officers that an ECW is about to be deployed (e.g., "Taser, Taser, Taser").

⁷**ECW Deployment:**

Probe deployment— the act of firing two small dart-like probes from the ECW, which attach to the subject. The device then delivers a 5-second electrical cycle, which can be repeated as needed in order to incapacitate the subject to the point of submission.

5-second cycle— a five second electrical charge resulting from a probe deployment, which can be repeated as needed.

Stun deployment— the act of bringing the ECW device into direct contact with the subject's skin or clothing in order to induce pain to the point of submission. Stuns can be repeated as needed if the subject does not initially submit.

CONTACT CHARACTERISTICS

Table 3 presents data on the 1,323 human contacts for which subject characteristics are known. The data show officers' use of warnings, and/or ECW weapons deployments by subject sex, race/ethnicity, and age. The data reveals a consistent pattern across all of the subject groups: a) in about 5 out of 10 contacts the officer issues an ECW warning with no subsequent ECW weapon deployment, b) in about 4 out of 10 contacts, the officer issues an ECW warning followed by an ECW weapon deployment, and c) in about 1 out of 10 contacts, the officer deploys an ECW weapon with no prior ECW warning.

Female subjects received an ECW warning slightly more often than male subjects (91.1% and 89.9%, respectively).

Amongst the four racial/Hispanic ethnicity categories, subjects in the "other" category were most frequently issued warnings (92.0%), followed by White subjects (91.2%) and Black subjects (88.7%). Individuals in the 30-34 and 35-44 year age groups had the highest percentages of contacts with warnings (90.6% and 90.4%, respectively). The youngest subjects, those less than 20 years of age, received the lowest percentage of contacts with warnings.

Table 3. Percent of Contacts With a Warning and/or ECW Weapon Deployment by Subject Characteristic, 2017

Characteristic		Contacts with a Warning, No ECW Deployment		Contacts with a Warning and ECW Deployment		Contacts with an ECW Deployment, No Warning	
		Number	Percent	Number	Percent	Number	Percent
Sex^a	Total	703	48.4%	604	41.6%	146	10.0%
	Male	648	48.2%	557	41.4%	136	10.1%
	Female	55	50.0%	47	42.7%	10	9.1%
Race/Ethnicity^a	Total	696	48.3%	598	41.5%	146	10.1%
	White	438	50.4%	358	41.2%	73	8.4%
	Black	134	53.6%	116	46.4%	32	12.8%
	Hispanic	109	41.3%	116	43.9%	39	14.8%
	Other	15	60.0%	8	--	2	--
Age^a	Total	703	48.4%	604	41.6%	145	10.0%
	19 Years or Younger	55	50.5%	41	37.6%	13	11.9%
	20 – 24 Years	145	27.7%	82	32.3%	27	5.2%
	25 – 29 Years	144	47.2%	131	43.0%	30	9.8%
	30 – 34 Years	100	42.6%	113	48.1%	22	9.4%
	35 – 44 Years	128	44.3%	135	46.7%	26	9.0%
	45 – 54 Years	98	53.3%	67	36.4%	19	10.3%
	55 Years or Older	33	43.4%	35	46.1%	8	10.5%

-- Percentages with such a small denominator are not statistically reliable.

^aUnknown or missing information are excluded from totals: sex (n=3), race/ethnicity (n=32), age (n=20), and warning type (n=5).

ECW DEPLOYMENTS

Of the 275 ECW approved agencies, 139 agencies (50.5%) reported one or more ECW deployments and 136 agencies (49.5%) did not deploy ECW weapons during the year (Figure 3). The 139 agencies reported a total of 1,185 weapon (probe and/or stun) deployments. Of the agencies with ECW deployments, the number of deployments ranged from 1 to 100, with the majority of departments (48.2%) reporting between one and three deployments. Appendix Figure 3, pg. 18 maps the number of deployments by police department. There are a minimal number of municipalities colored blue, indicating overall low numbers of deployments.

Appendix Table 4, pgs. 19-23 provides information on the type of deployment by department, revealing slightly higher overall usage of probe deployments, 54.4% compared with stun deployments 45.6%; the number of probe deployments per department was more widely dispersed (1 to 80) than the number of stun deployments (1 to 60).

Officers deployed ECW weapons in half

(50.7%) of all contacts; overall, subjects submitted to ECW deployments 72.6% of the time (Table 4). Slightly more than half of the deployments (53%) involved individual probe deployments (the firing of two small dart-like probes from the ECW, which attach to the subject); 37.5% involved individual stun deployments (bringing the ECW device into direct contact with the subject's skin or clothing); 9.5% involved a combination of probe and stun deployments. Subjects submitted to individual stun deployments more often than individual probe deployments (79.8% and 70.1%, respectively). Combined probe and stun deployments had a submission rate of 57.7%.

Officers deployed ECW weapons with male subjects slightly more often than females (51.5% and 50.9%, respectively) (Appendix Table 2, pg. 17). Hispanic subjects had the greatest likelihood of weapon deployment (58.5%) followed by Black subjects (52.5%), and subjects whose race was White (49.4%). Amongst subject age

categories, contacts with subjects in their 60s had the highest likelihood of weapon deployment (74.1%), followed by 40-44 years (58.1%); contacts with subjects age 17 or younger and 20-24 had the lowest likelihood of weapon deployment 32.4% and 42.9%, respectively.

Figure 3. Number of ECW Deployments by ECW Approved Agencies, Calendar Year 2017

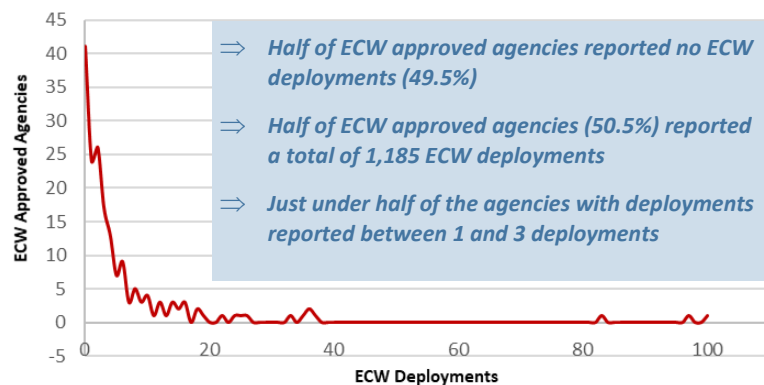
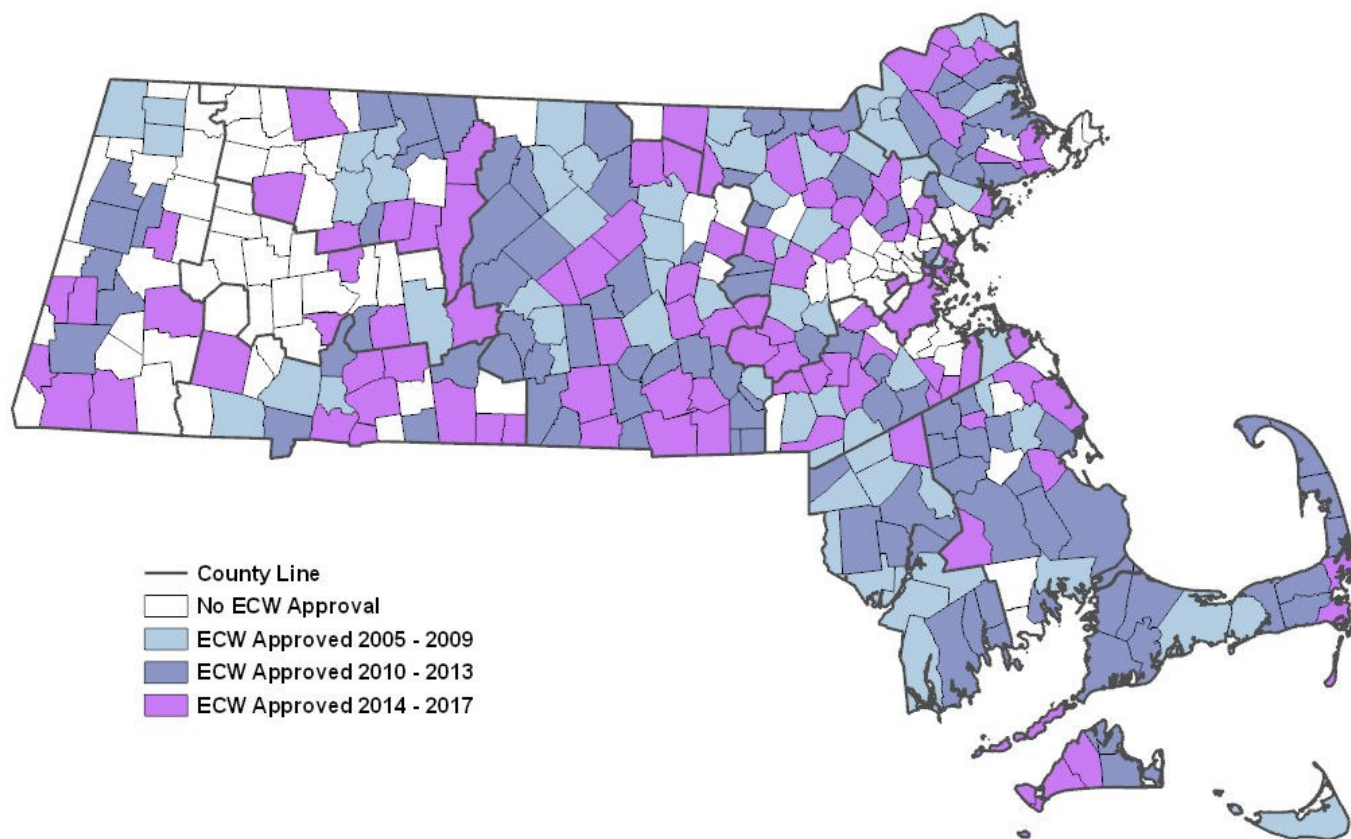


Table 4. Distribution of ECW Submissions by Deployment Types, Calendar Year 2017

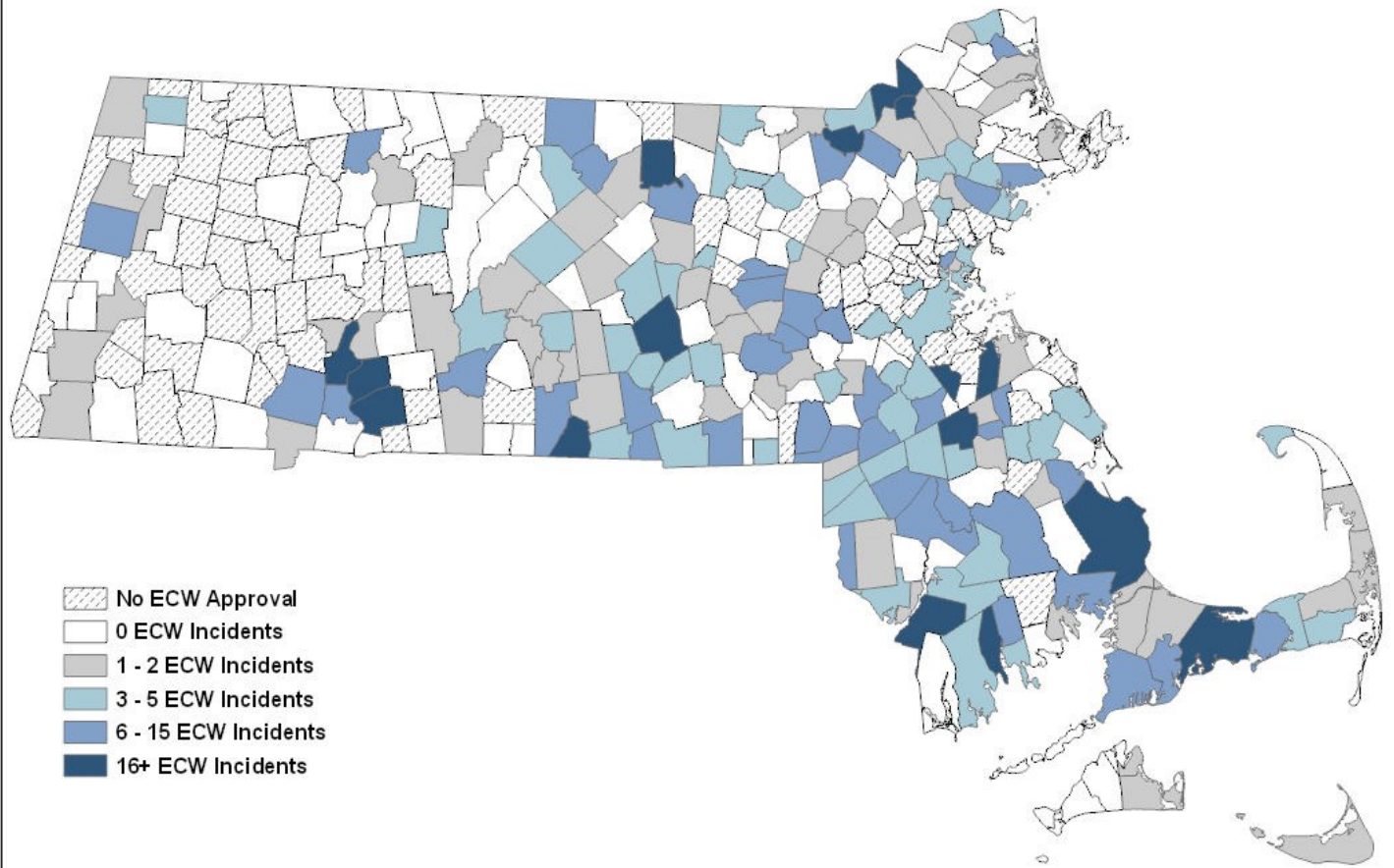
Characteristic	ECW Deployments		ECW Submissions		Percent that Submit
	Number	Percent	Number	Percent	
Total	751	100.0%	545	100.0%	72.6%
Probe	398	53.0%	279	51.2%	70.1%
Stun	282	37.5%	225	41.3%	79.8%
Combined Probe and Stun	71	9.5%	41	7.5%	57.7%

Appendix Figure 1. Growth in Massachusetts Law Enforcement Agencies Approved for ECW Use, 2005-2017^a



^a Non-municipal departments approved for ECW use are excluded from the maps in Figures 1, 2 and 3.

Appendix Figure 2. Massachusetts ECW Incidents in 2017^a



^a Non-municipal departments approved for ECW use are excluded from the maps in Figures 1, 2 and 3.

Appendix Table 1. Number of Municipal and Non-municipal ECW Incidents, 2013-2017

Agency Type	Number of Incidents				
	2013	2014	2015	2016	2017
Total	949	980	1,102	1,241	1,339
Non-municipal	0	2	2	64	85
Bridgewater State University	--	--	--	3	2
Cape Cod Regional Law Enforcement Council	0	0	0	0	1
Central MA Law Enforcement Council	--	--	1	0	0
Clark University	--	--	0	0	0
MA State Police	0	0	0	61	81
Massasoit Community College	--	0	0	0	1
MV Police Tactical RT	0	0	1	0	0
Northeast MA Law Enforcement Council	0	2	0	0	0
University of Massachusetts Memorial ^a	--	--	--	--	0
University of Massachusetts Worcester ^a	--	--	--	--	0
Municipal	949	978	1,100	1,177	1,254
Abington	3	2	1	1	1
Acushnet	2	5	6	3	7
Adams	4	1	3	2	0
Agawam ^a	--	--	--	--	0
Amesbury	0	0	0	0	4
Andover	2	2	3	1	2
Aquinnah	--	0	0	0	0
Ashburnham	3	4	3	2	0
Ashfield ^a	--	--	--	--	0
Ashland	--	--	0	5	6
Athol	41	26	7	4	0
Attleboro	10	6	12	7	5
Auburn	0	8	5	2	3
Avon	--	--	1	1	0
Ayer	10	4	3	3	3
Barnstable	45	25	27	26	24
Barre	6	4	4	10	5
Becket	--	0	0	0	0
Bedford	--	--	--	0	2
Belchertown	4	4	0	3	2
Berkley	0	0	0	1	0
Bernardston	0	0	1	0	0
Beverly	0	0	7	9	7
Billerica	4	2	4	2	0
Blackstone	1	1	3	1	5
Blandford	--	--	0	0	0
Bolton	--	--	--	6	0
Boston	--	--	--	1	4
Bourne	12	7	3	3	1
Boxborough	0	2	2	0	0
Boxford	--	0	0	0	1
Boylston	--	--	--	1	2
Brewster	0	0	3	4	2
Bridgewater	2	2	4	3	0
Brockton	6	30	27	15	26
Brookfield	2	7	5	4	1
Burlington	--	--	--	0	0
Canton	2	2	4	2	4
Carlisle ^a	--	--	--	--	0
Carver	2	0	5	0	0
Charlton	--	--	0	1	2
Chatham	--	--	--	0	0
Chelmsford	1	2	1	4	6
Chelsea	15	8	5	6	2
Chicopee	--	--	1	16	25

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2013-2017

Agency Type	Number of Incidents				
	2013	2014	2015	2016	2017
Municipal					
Chilmark	--	--	0	0	0
Clinton	0	15	10	3	4
Cohasset	--	--	--	1	0
Colrain ^a	--	--	--	--	0
Concord	1	0	1	1	2
Dalton	0	0	1	0	1
Danvers	5	12	10	12	4
Dartmouth	13	9	9	5	3
Deerfield	3	1	2	1	0
Dennis	5	1	10	7	4
Dighton	0	0	2	0	0
Douglas	--	--	0	5	3
Dover	2	1	1	0	0
Dracut	5	3	5	7	4
Dudley	--	--	--	0	3
Dunstable	0	0	0	3	0
Duxbury	2	1	2	1	0
East Bridgewater	2	4	1	4	1
East Brookfield	2	1	0	2	1
Eastham	1	0	0	2	1
Easthampton ^a	--	--	--	--	2
Easton	--	--	1	8	4
Edgartown	2	4	3	2	2
Egremont ^a	--	--	--	--	0
Erving	0	1	1	0	0
Essex	--	--	0	3	2
Everett	7	17	23	14	14
Fairhaven	5	2	2	4	3
Fall River	37	29	36	30	36
Falmouth	12	22	20	14	11
Fitchburg	--	--	0	14	27
Foxborough	2	7	7	6	6
Framingham	2	7	8	14	10
Franklin	6	4	5	7	8
Freetown	2	7	1	1	4
Gardner	10	13	13	10	11
Georgetown	1	0	0	0	0
Gill	1	1	0	0	0
Gosnold	--	0	0	0	0
Grafton	0	5	7	12	4
Granby ^a	--	--	--	--	0
Granville	0	0	0	0	0
Great Barrington	3	12	5	2	2
Greenfield	9	6	3	9	10
Groton	0	0	1	0	0
Groveland	0	0	0	0	0
Hampden	0	0	1	1	0
Hanson	0	4	2	3	3
Hardwick	3	1	1	5	2
Harwich	2	3	2	6	4
Hatfield ^a	--	--	--	--	0
Haverhill	--	--	0	0	0
Hingham	5	7	3	8	1
Hinsdale ^a	--	--	--	--	0
Holbrook	--	--	--	0	0
Holden	2	3	0	2	5
Holland	--	--	--	0	0

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2013-2017

Agency Type	Number of Incidents				
	2013	2014	2015	2016	2017
Municipal					
Holliston	--	0	0	3	2
Holyoke	37	27	9	23	34
Hopedale	0	2	0	0	0
Hopkinton ^a	--	--	--	--	6
Hubbardston	1	4	1	2	1
Hudson	5	6	4	2	6
Hull	--	2	7	3	1
Ipswich	0	0	3	3	0
Kingston	--	--	3	5	6
Lakeville	--	0	16	5	5
Lanesborough	0	1	0	0	1
Lawrence	26	57	52	34	22
Lee	0	0	0	0	1
Leicester	--	--	1	4	3
Lenox	2	0	1	1	0
Leominster	10	10	17	22	12
Leverett ^a	--	--	--	--	0
Lincoln	--	--	--	0	1
Littleton	2	1	3	4	4
Longmeadow	--	--	--	0	0
Lowell	--	--	--	26	61
Ludlow	--	--	0	0	0
Lunenburg	--	0	0	0	0
Lynnfield	0	0	0	1	2
Manchester-by-the-Sea ^a	--	--	--	--	0
Mansfield	1	3	8	8	3
Marblehead	0	1	1	3	4
Marion	9	1	5	5	1
Marlborough	12	11	10	9	11
Marshfield	--	5	7	5	3
Mashpee	7	4	5	11	11
Maynard	2	5	4	3	5
Medfield ^a	--	--	--	--	1
Medway ^a	--	--	--	--	0
Mendon	0	1	2	0	0
Merrimac	--	--	2	0	1
Methuen	4	3	13	17	18
Middleborough	6	15	7	7	12
Middleton	1	3	0	0	4
Milford	16	6	6	5	2
Millbury	1	10	6	7	3
Millis ^a	--	--	--	--	3
Millville	0	2	0	0	0
Monson ^a	--	--	--	--	2
Montague	0	5	0	0	1
Nantucket	2	2	1	3	1
Natick	10	7	8	8	7
Needham	--	--	2	4	5
New Bedford	125	105	82	63	69
New Braintree	0	0	0	0	1
New Marlborough	--	--	0	0	0
New Salem	--	--	--	0	0
Newbury	2	0	1	0	2
Newburyport	--	--	0	0	6
Norfolk	1	4	1	2	0
North Adams	5	1	1	2	5
North Andover	0	0	0	3	1
North Attleboro	0	2	2	2	3

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2013-2017

Agency Type	Number of Incidents				
	2013	2014	2015	2016	2017
Municipal					
North Brookfield	3	1	0	7	3
North Reading	0	0	1	3	3
Northborough	0	0	2	5	1
Northbridge	--	--	--	1	1
Northfield	0	0	0	0	0
Norton	12	9	6	7	11
Norwell	--	--	0	3	0
Norwood	12	10	6	4	3
Oak Bluffs	1	4	4	5	2
Oakham	--	0	4	1	0
Orange	--	--	0	5	2
Orleans	--	0	4	1	2
Oxford	8	10	3	13	15
Palmer	24	13	7	11	9
Paxton	1	0	2	0	0
Peabody	3	3	1	5	9
Pembroke	3	4	5	10	5
Pepperell	6	4	4	8	4
Petersham	1	0	0	0	0
Phillipston	0	0	0	0	0
Pittsfield	13	11	8	11	14
Plainville	3	5	0	3	1
Plymouth	31	22	23	17	16
Plympton	0	2	2	0	1
Princeton ^a	--	--	--	--	0
Provincetown	5	2	5	4	4
Randolph	--	--	6	19	16
Raynham	6	5	5	9	10
Rehoboth	0	3	1	2	1
Revere	--	0	21	15	5
Rockland	7	8	7	2	9
Rowley	0	1	0	2	1
Rutland	--	--	1	4	1
Salem	--	--	0	2	4
Salisbury	2	1	0	0	0
Sandwich	6	2	0	3	2
Seekonk	17	7	5	11	8
Sharon	0	1	0	0	3
Sheffield	--	0	4	1	1
Sherborn	0	0	1	0	0
Shirley	--	--	0	2	4
Shrewsbury	--	0	0	0	0
Shutesbury	--	--	--	1	3
Somerset	3	1	0	3	2
South Hadley	0	3	5	9	2
Southborough	--	0	0	1	1
Southbridge	18	15	21	15	28
Southwick	2	1	0	0	2
Spencer	10	2	10	3	2
Springfield	--	--	14	65	81
Sterling	0	3	0	2	2
Stockbridge	--	--	2	0	0
Stoneham ^a	--	--	--	--	0
Stoughton	24	13	20	10	14
Stow	--	--	0	0	0
Sturbridge	1	6	10	4	6
Sudbury	--	0	0	0	1
Sunderland	0	0	0	0	0

Appendix Table 1. (continued) Number of Municipal and Non-municipal ECW Incidents, 2013-2017

Agency Type	Number of Incidents				
	2013	2014	2015	2016	2017
Municipal					
Sutton	--	--	0	0	0
Swampscott	0	2	0	0	0
Swansea	4	4	4	5	5
Taunton	18	27	12	10	7
Templeton	2	3	1	0	3
Tewksbury	11	9	14	18	8
Tisbury	0	0	2	0	0
Topsfield	0	0	0	0	0
Townsend	--	0	1	1	2
Truro	2	2	0	2	0
Tyngsborough	1	1	7	2	2
Upton	0	0	0	0	0
Uxbridge	--	0	0	8	6
Wakefield	--	--	--	3	3
Wales	--	--	--	0	0
Walpole	--	2	11	3	10
Ware ^a	--	--	--	--	5
Wareham	14	27	24	15	14
Warren	2	0	1	1	0
Warwick	0	0	0	0	0
Webster	8	11	13	9	12
Wellfleet	1	0	0	0	1
Wenham	--	--	0	1	0
West Boylston	1	2	1	0	3
West Bridgewater	0	1	5	0	3
West Brookfield	3	2	1	0	2
West Newbury ^a	--	--	--	--	0
West Springfield	1	6	16	19	10
West Stockbridge	--	--	0	0	0
West Tisbury	--	0	0	0	0
Westborough	--	--	--	1	2
Westfield	16	14	23	10	12
Westford ^a	--	--	--	--	0
Westminster	2	1	4	1	1
Westport	6	1	1	1	0
Westwood	--	0	0	5	0
Weymouth	--	--	0	6	27
Whately ^a	--	--	--	--	0
Whitman	--	--	11	4	6
Williamstown	5	2	2	0	2
Wilmington ^a	--	--	--	--	0
Winchendon	6	1	6	4	8
Winchester	--	--	0	0	0
Woburn	0	3	4	2	1
Worcester	4	9	59	45	63
Wrentham	--	3	11	5	7
Yarmouth	4	10	6	4	7

-- cells denoted by a "--" indicate that the agency did not have an approved ECW training program.

^a Approval of the ECW policies for these agencies occurred during 2017, therefore they might not have a full year of data to report.

Appendix Table 2. Distribution of ECW Contacts, Warnings, and Deployments by Subject Sex and Race, Calendar Year 2017

<u>Characteristic</u>	<u>Contacts</u>		<u>Warnings</u>		<u>Deployments</u>		Percent of Contacts with a Warning	Percent of Contacts with a Weapon Deployment
	Number	Percent	Number	Percent	Number	Percent		
Total	1,462	100.0 %	1,310	100.0 %	751	100.0 %	89.6 %	51.4 %
Sex	1,462	100.0 %	1,310	100.0 %	751	100.0 %	89.6 %	51.4 %
Male	1,346	92.1	1,205	92.0	693	92.3	89.5	51.5
Female	112	7.7	102	7.8	57	7.6	91.1	50.9
Unknown	4	.3	3	.2	1	.1	75.0	25.0
Race	1,462	100.0 %	1,310	100.0 %	751	100.0 %	89.6 %	51.4 %
White	873	59.7	796	60.8	431	57.4	91.2	49.4
Black	282	19.3	250	19.1	148	19.7	88.7	52.5
Hispanic	265	18.1	225	17.2	155	20.6	84.9	58.5
Other ^a	25	1.7	23	1.8	10	1.3	92.0	40.0
Unknown	17	1.2	16	1.2	7	.9	94.1	41.2

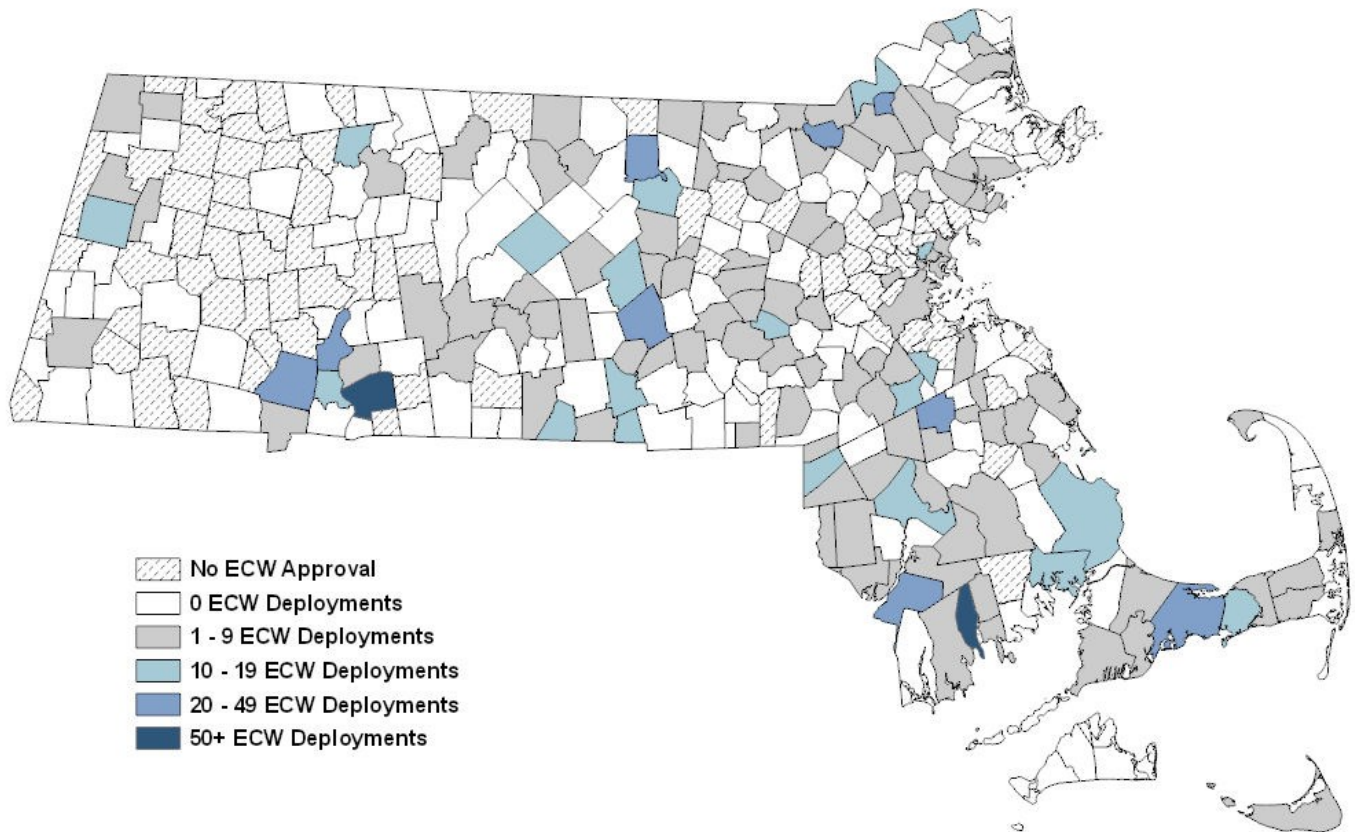
^aThe race/ethnic categories of American Indian/Alaska native, Asian, Native Hawaiian or other Pacific Islander, two or more races, and other (specified) comprise *other*.

Appendix Table 3. Distribution of ECW Contacts, Warnings, and Deployments by Subject Age, Calendar Year 2017

<u>Subject Age</u>	<u>Contacts</u>		<u>Warnings</u>		<u>Deployments</u>		Percent of Contacts with a Warning	Percent of Contacts with a Weapon Deployment
	Number	Percent	Number	Percent	Number	Percent		
Total	1,462	100.0%	1,310	100.0%	751	100.0%	89.6%	51.4%
17 or Younger	34	2.3	33	2.5	11	1.5	97.1	32.4
18-19 Years	75	5.1	63	4.8	43	5.7	84.0	57.3
20-24 Years	254	17.4	227	17.3	109	14.5	89.4	42.9
25-29 Years	307	21.0	275	21.0	161	21.4	89.6	52.4
30-34 Years	235	16.1	213	16.3	135	18.0	90.6	57.4
35-39 Years	174	11.9	162	12.4	93	12.4	93.1	53.4
40-44 Years	117	8.0	101	7.7	68	9.1	86.3	58.1
45-49 Years	109	7.5	100	7.6	50	6.7	91.7	45.9
50-54 Years	76	5.2	65	5.0	36	4.8	85.5	47.4
55-59 Years	49	3.4	42	3.2	23	3.1	85.7	46.9
60-64 Years	20	1.4	20	1.5	14	1.9	100.0	70.0
65 or Older	7	.5	6	.5	6	.8	--	--
Unknown	5	.3	3	.2	2	.3	--	--

-- percentages with such a small denominator are not statistically reliable

Appendix Figure 3. Massachusetts ECW Deployments in 2017^a



^a Non-municipal departments approved for ECW use are excluded from the maps in Figures 1, 2 and 3.

Appendix Table 4. Number of Municipal and Non- municipal ECW Deployments, 2017

Agency Type	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Total	645	540	1,185
Non-municipal	86	20	106
Bridgewater State University	4	0	4
Cape Cod Regional Law Enforcement Council	2	0	2
Central MA Law Enforcement Council	0	0	0
Clark University	0	0	0
MA State Police	80	20	100
Massasoit Community College	0	0	0
MV Police Tactical RT	0	0	0
Northeast MA Law Enforcement Council	0	0	0
University of Massachusetts, Memorial ^a	0	0	0
University of Massachusetts, Worcester ^a	0	0	0
Municipal	559	520	1,079
Abington	0	0	0
Acushnet	4	1	5
Adams	0	0	0
Agawam ^a	0	0	0
Amesbury	10	4	14
Andover	1	3	4
Aquinnah	0	0	0
Ashburnham	0	0	0
Ashfield ^a	0	0	0
Ashland	7	7	14
Athol	0	0	0
Attleborough	6	0	6
Auburn	3	1	4
Avon	0	0	0
Ayer	0	1	1
Barnstable	18	18	36
Barre	10	2	12
Becket	0	0	0
Bedford	0	0	0
Belchertown	2	0	2
Berkley	0	0	0
Bernardston	0	0	0
Beverly	1	7	8
Billerica	0	0	0
Blackstone	2	3	5
Blandford	0	0	0
Bolton	0	0	0
Boston	5	1	6
Bourne	0	0	0
Boxborough	0	0	0
Boxford	0	2	2
Boylston	2	0	2
Brewster	2	0	2
Bridgewater	0	0	0
Brockton	20	16	36
Brookfield	0	0	0
Burlington	0	0	0
Canton	1	2	3
Carlisle ^a	0	0	0
Carver	0	0	0
Charlton	0	0	0

Appendix Table 4. (continued) Number of Municipal and Non- municipal ECW Deployments, 2017

Agency Type	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Municipal			
Chatham	0	0	0
Chelmsford	2	0	2
Chelsea	1	3	4
Chicopee	0	9	9
Chilmark	0	0	0
Clinton	2	0	2
Cohasset	0	0	0
Colrain ^a	0	0	0
Concord	0	2	2
Dalton	2	0	2
Danvers	1	1	2
Dartmouth	0	1	1
Deerfield	0	0	0
Dennis	1	0	1
Dighton	0	0	0
Douglas	0	0	0
Dover	0	0	0
Dracut	0	3	3
Dudley	1	1	2
Dunstable	0	0	0
Duxbury	0	0	0
East Bridgewater	0	0	0
East Brookfield	0	0	0
Eastham	1	1	2
Easthampton ^a	0	0	0
Easton	0	5	5
Edgartown	0	0	0
Egremont ^a	0	0	0
Erving	0	0	0
Essex	0	0	0
Everett	10	3	13
Fairhaven	2	1	3
Fall River	19	18	37
Falmouth	2	5	7
Fitchburg	20	5	25
Foxborough	0	0	0
Framingham	4	3	7
Franklin	4	0	4
Freetown	2	1	3
Gardner	1	2	3
Georgetown	0	0	0
Gill	0	0	0
Gosnold	0	0	0
Grafton	1	0	1
Granby ^a	0	0	0
Granville	0	0	0
Great Barrington	5	3	8
Greenfield	10	2	12
Groton	0	0	0
Groveland	0	0	0
Hampden	0	0	0
Hanson	2	0	2
Hardwick	0	0	0
Harwich	2	0	2
Hatfield ^a	0	0	0
Haverhill	0	0	0
Hingham	0	0	0

Appendix Table 4. (continued) Number of Municipal and Non- municipal ECW Deployments, 2017

Agency Type	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Municipal			
Hinsdale ^a	0	0	0
Holbrook	0	0	0
Holden	5	5	10
Holland	0	0	0
Holliston	0	4	4
Holyoke	5	17	22
Hopedale	0	0	0
Hopkinton ^a	1	3	4
Hubbardston	0	0	0
Hudson	0	1	1
Hull	0	0	0
Ipswich	0	0	0
Kingston	4	0	4
Lakeville	3	0	3
Lanesborough	0	2	2
Lawrence	16	19	35
Lee	0	0	0
Leicester	0	0	0
Lenox	0	0	0
Leominster	2	13	15
Leverett ^a	0	0	0
Lincoln	1	0	1
Littleton	0	1	1
Longmeadow	0	0	0
Lowell	9	17	26
Ludlow	0	0	0
Lunenburg	0	0	0
Lynnfield	0	0	0
Manchester-by-the-Sea ^a	0	0	0
Mansfield	0	0	0
Marblehead	0	2	2
Marion	0	0	0
Marlborough	7	2	9
Marshfield	0	2	2
Mashpee	0	1	1
Maynard	1	0	1
Medfield ^a	0	0	0
Medway ^a	0	0	0
Mendon	0	0	0
Merrimac	0	1	1
Methuen	7	3	10
Middleborough	5	0	5
Middleton	0	0	0
Milford	0	0	0
Millbury	0	2	2
Millis ^a	1	0	1
Millville	0	0	0
Monson ^a	0	0	0
Montague	0	1	1
Nantucket	1	1	2
Natick	1	2	3
Needham	0	0	0
New Bedford	50	33	83
New Braintree	0	1	1
New Marlborough	0	0	0
New Salem	0	0	0

Appendix Table 4. (continued) Number of Municipal and Non-municipal ECW Deployments, 2017

Agency Type	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Municipal			
Newbury	1	1	2
Newburyport	2	2	4
Norfolk	0	0	0
North Adams	5	1	6
North Andover	1	0	1
North Attleboro	4	11	15
North Brookfield	3	2	5
North Reading	1	0	1
Northborough	0	0	0
Northbridge	0	0	0
Northfield	0	0	0
Norton	6	0	6
Norwell	0	0	0
Norwood	3	3	6
Oak Bluffs	0	0	0
Oakham	0	0	0
Orange	1	4	5
Orleans	0	0	0
Oxford	6	5	11
Palmer	6	3	9
Paxton	0	0	0
Peabody	3	3	6
Pembroke	1	1	2
Pepperell	0	1	1
Petersham	0	0	0
Phillipston	0	0	0
Pittsfield	18	0	18
Plainville	0	2	2
Plymouth	16	3	19
Plympton	0	0	0
Princeton ^a	0	0	0
Provincetown	1	0	1
Randolph	3	11	14
Raynham	3	0	3
Rehoboth	1	0	1
Revere	0	3	3
Rockland	2	2	4
Rowley	0	0	0
Rutland	2	1	3
Salem	1	7	8
Salisbury	0	0	0
Sandwich	3	3	6
Seekonk	3	1	4
Sharon	1	0	1
Sheffield	0	0	0
Sherborn	0	0	0
Shirley	1	1	2
Shrewsbury	0	0	0
Shutesbury	0	0	0
Somerset	0	1	1
South Hadley	0	0	0
Southborough	4	4	8
Southbridge	4	12	16
Southwick	0	3	3
Spencer	1	1	2
Springfield	37	60	97
Sterling	0	1	1

Appendix Table 4. (continued) Number of Municipal and Non- municipal ECW Deployments, 2017

Agency Type	Number of ECW Deployments		
	Probe Cycles	Stuns	Total
Municipal			
Stockbridge	0	0	0
Stoneham ^a	0	0	0
Stoughton	6	4	10
Stow	0	0	0
Sturbridge	4	0	4
Sudbury	0	0	0
Sunderland	0	0	0
Sutton	0	0	0
Swampscott	0	0	0
Swansea	1	2	3
Taunton	12	6	18
Templeton	0	1	1
Tewksbury	4	4	8
Tisbury	0	0	0
Topsfield	0	0	0
Townsend	2	1	3
Truro	0	0	0
Tyngsborough	0	1	1
Upton	0	0	0
Uxbridge	0	0	0
Wakefield	1	4	5
Wales	0	0	0
Walpole	2	1	3
Ware ^a	4	2	6
Wareham	10	6	16
Warren	0	0	0
Warwick	0	0	0
Webster	8	2	10
Wellfleet	0	0	0
Wenham	0	0	0
West Boylston	3	0	3
West Bridgewater	1	2	3
West Brookfield	1	0	1
West Newbury ^a	0	0	0
West Springfield	4	12	16
West Stockbridge	0	0	0
West Tisbury	0	0	0
Westborough	3	0	3
Westfield	10	14	24
Westford	0	0	0
Westminster	0	0	0
Westport	0	0	0
Westwood	0	0	0
Weymouth	2	5	7
Whately ^a	0	0	0
Whitman	0	4	4
Williamstown	2	0	2
Wilmington ^a	0	0	0
Winchendon	5	1	6
Winchester	0	0	0
Woburn	0	2	2
Worcester	17	16	33
Wrentham	0	0	0
Yarmouth	5	7	12

^a Approval of the ECW policies for these agencies occurred during 2017, therefore they might not have a full year of data to report.

TERMS AND DEFINITIONS

These terms and definitions are provided to police departments on the ECW reporting forms that they submit twice a year.

Electronic control weapon (ECW)— a device utilized to immobilize a subject without causing serious injury, typically by administering an electric shock. An ECW is commonly referred to as stun gun or TASER®.

ECW approved agency— a law enforcement agency in Massachusetts with an electronic control weapons training program approved by the Secretary of Public Safety and Security.

ECW contact— an individual officer's warning and/or deployment of an ECW towards a single subject.

ECW deployment:

Probe deployment— the act of firing two small dart-like probes from the ECW, which attach to the subject. The device then delivers a 5-second electrical cycle, which can be repeated as needed in order to incapacitate the subject to the point of submission.

5-second cycle— a five second electrical charge resulting from a probe deployment, which can be repeated as needed.

Stun deployment— the act of bringing the ECW device into direct contact with the subject's skin or clothing in order to induce pain to the point of submission. Stuns can be repeated as needed if the subject does not initially submit.

ECW incident— an event in which an officer (or group of officers) issue a warning and/or deploy an ECW towards a single subject.

ECW warning:

Laser warning— a visual warning whereby an officer employs the laser function of the ECW device to indicate that an ECW will be deployed.

Spark warning— a visual warning whereby an officer employs a spark on a handheld stun device in order to demonstrate its effectiveness.

Verbal warning— a spoken warning whereby an officer indicates to a subject that an ECW may be used. These warnings can be direct, "Stop or you will be tased," or indirect such as when an officer verbally warns other officers that an ECW is about to be deployed (e.g., "Taser, Taser, Taser").

ABOUT THE RESEARCH AND POLICY ANALYSIS DIVISION

A division of the Massachusetts Executive Office of Public Safety and Security, Office of Grants and Research (OGR), the Research and Policy Analysis Division (RPAD) and its Statistical Analysis Center, uses research and evaluation to promote public safety. RPAD works on a number of projects including electronic control weapons reporting, provider sexual crime report analysis, the collection of statewide county release data for recidivism, and the development of criminal justice data standards.

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This report would not be possible without the contributions of municipal and non-municipal law enforcement agencies in Massachusetts with approved ECW training programs for providing the data used for this report. The maps for this report were created by Robert Kearney, Program Coordinator, of OGR's Highway Safety Division. We greatly appreciate Bob's time and effort to create the maps.

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